

WHAT IS CLAIMED IS:

1. A method of reducing differential resolution, the method comprising:
selecting a first image containing first information about a scene;
selecting a second image containing second information about the scene, wherein
a portion of the first image and a portion of the second image have differential resolution;
5 determining a location at which to modify a property of the first image to reduce
the differential resolution, the location being in the portion of the first image, and the
determination being based on information obtained at least in part from the portion of the
second image; and
reducing the differential resolution by modifying the property at the determined
10 location in the portion of the first image.
2. The method of claim 1 wherein the first image and the second image are
digital images, the location comprises a pixel, and the property comprises an intensity
value or a function of the intensity value of the pixel.
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3. The method of claim 1 wherein the first image and the second image
comprise color separations of a film frame.
4. The method of claim 1 wherein the first and second images are extracted
20 from a composite color image.

5. The method of claim 4 wherein the composite color image is generated from color separations of a film frame.

6. The method of claim 3 wherein the first image comprises a red separation
5 and the differential resolution results in red fringing.

7. The method of claim 1 further comprising determining a non-modify location in the first image at which the property is not to be modified.

8. The method of claim 1 wherein determining the location comprises
10 selecting one or more edges to modify.

9. The method of claim 8 wherein selecting one or more edges to modify comprises selecting, for one of the one or more edges, a single edge pixel of an edge that includes multiple edge pixels.

10. The method of claim 8 wherein selecting one or more edges to modify
15 comprises:

comparing one or more features of an edge in the first image with one or more features of an edge in the second image; and

selecting the edge as an edge to modify based on a result of the comparison.

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11. The method of claim 10 wherein the one or more features comprise a feature selected from the group consisting of a location of the edge, a direction of the edge, an extent of the edge, an intensity-change direction, and an intensity range traversed.

5 12. The method of claim 8 further comprising determining an edge extent to modify for each selected edge.

13. The method of claim 8 wherein selecting one or more edges to modify comprises selecting multiple edges to modify, the method further comprising:

10 connecting two of the selected edges based on properties of the two selected edges; and
determining an edge extent for the connected selected edges.

14. The method of claim 13 wherein connecting two selected edges is based on spatial proximity between the two selected edges.

15 15. The method of claim 13 wherein connecting two selected edges is based on one or more of intensity differences between particular pixels in each of the two selected edges and intensity differences between particular pixels spatially located between the two selected edges.

16. The method of claim 13 wherein determining an edge extent for the connected selected edges is based on edge extents that would have been determined for each of the selected edges before being connected.

17. The method of claim 8 further comprising unselecting a selected edge
5 based on a size of the selected edge.

18. The method of claim 1 wherein:
determining the location in the portion of the first image is based on information obtained at least in part from the portion of the second image, and the information is for a first direction only, and
10 modifying the property at the location comprises producing a modified first image.

19. The method of claim 18 further comprising:
determining a location at which to modify the property in the modified first image, wherein the determination is based on information obtained at least in part from
15 the second image, and the information obtained from the second image is for a second direction that is orthogonal to the first direction; and
modifying the property at the location in the modified first image.

20. The method of claim 1 wherein the first image comprises an image that has been modified with information obtained from the second image.

21. The method of claim 1 wherein selecting a second image comprises selecting a second image from a plurality of images based on one or more criteria.

22. The method of claim 21 wherein the one or more criteria comprises intensity information.

5 23. The method of claim 21 wherein the one or more criteria comprises resolution information.

24. The method of claim 1 wherein determining the location is performed automatically.

25. The method of claim 1 wherein determining the location is performed
10 interactively.

26. The method of claim 1 further comprising applying a feathering technique to a region of the first image that includes the location to modify, the feathering technique being applied after the location is modified.

27. The method of claim 1 wherein modifying the property at the location in
15 the first image comprises:

applying a first wavelet transformation to the portion of the first image to produce
a result;

applying a second wavelet transformation to the portion of the second image; and
modifying one or more coefficients produced by the application of the first
5 wavelet transformation based on one or more coefficients produced by the application of
the second wavelet transformation to produce a modified result.

28. The method of claim 27 further comprising determining a non-modify
location in the first image at which the property is not to be modified.

29. The method of claim 28 further comprising:
10 applying an inverse wavelet transformation to the modified result of the first
wavelet transformation to produce a digital image; and
determining whether the property is modified at the non-modify location in the
digital image.

30. The method of claim 29 further comprising restoring the property at the
15 non-modify location to its original value if the property is modified at the non-modify
location in the digital image.

31. The method of claim 27 further comprising:
applying an inverse wavelet transformation to the modified result; and

determining whether the differential resolution is reduced between the portion of the first image and the portion of the second image.

32. The method of claim 27 further comprising:

applying an inverse wavelet transformation to the modified result to produce

5 another result; and

applying a feathering technique to a portion of the other result that includes the determined location to modify.

33. The method of claim 32 wherein applying the feathering technique

comprises linearly interpolating between intensity values within the portion of the other

10 result.

34. A method of modifying a property of an image, the method comprising:

accessing a first image containing first information about a scene;

accessing a second image containing second information about the scene, wherein a portion of the first image and a portion of the second image have differential resolution;

15 determining a location at which to modify a property of the first image to reduce the differential resolution, wherein the determining is based on a time-domain

comparison of the portion of the first image and the portion of the second image; and

modifying the property at the location by modifying information produced by application of a wavelet transformation to the portion of the first image, the information

being modified based on information produced by application of a wavelet transformation to the portion of the second image.

35. An apparatus comprising a computer readable medium having instructions stored thereon that when executed by a machine result in at least the following:

- 5 selecting a first image containing first information about a scene;
- selecting a second image containing second information about the scene, wherein a portion of the first image and a portion of the second image have differential resolution;
- determining a location at which to modify a property of the first image to reduce the differential resolution, the location being in the portion of the first image, and the
- 10 determination being based on information obtained at least in part from the portion of the second image; and
- reducing the differential resolution by modifying the property at the location.

36. The apparatus of claim 35 wherein the first image comprises a red separation of a film frame and the differential resolution results in red fringing.

- 15 37. The apparatus of claim 35 wherein determining the location comprises:- comparing one or more features of an edge in the first image with one or more features of an edge in the second image; and
- selecting the edge as a location to modify based on a result of the comparison.

38. The apparatus of claim 35 further comprising a processing device coupled to the computer readable medium for executing the stored instructions.